

Operator's Manual

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AP-100RN

Operator's Manual

ApriCord //c

Introduction

The ApriCord //c is a full featured Serial to Parallel converter that allows you to produce hard copy output on any Centronics compatible parallel printer (Serial devices send and receive information one bit at a time while parallel devices send and receive information eight bits at a time). Now you can easily send data to your printer to produce program listings, word processing text, graphics, spreadsheet reports and debug listings. This device is useful because of the limitation of the Apple //c of only having a serial printer port.

The ApriCord //c works by taking the serial output data from the Apple //c and converts it to parallel data which your parallel printer can recognize. No power supply for the ApriCord //c is ever needed even with printers that do not supply power in pin 18. The ApriCord //c supports graphics on the Epson, Star Micronics, C.Itoh 8510, NEC 8023, Okidata 92, 93 series of parallel printers and their 100% compatibles.

The ApriCord //c is compatible with all Apple operating systems including DOS 3.3, ProDOS, Applesoft and Integer BASICs, Apple Pascal and FORTRAN, Apple PILOT and Apple Logo. All commercial software packages are compatible with the ApriCord //c.

Included with the ApriCord //c are two software packages, MousePaint Fixer and Graphics Sampler //c. The MousePaint Fixer is a program which allows MousePaint to print on your Epson, Star Micronics, C. Itoh 8510, NEC 8023 and Okidata 92, 93 series of printers. The Graphics Sampler is a program which allows you to do high resolution screen dumps.

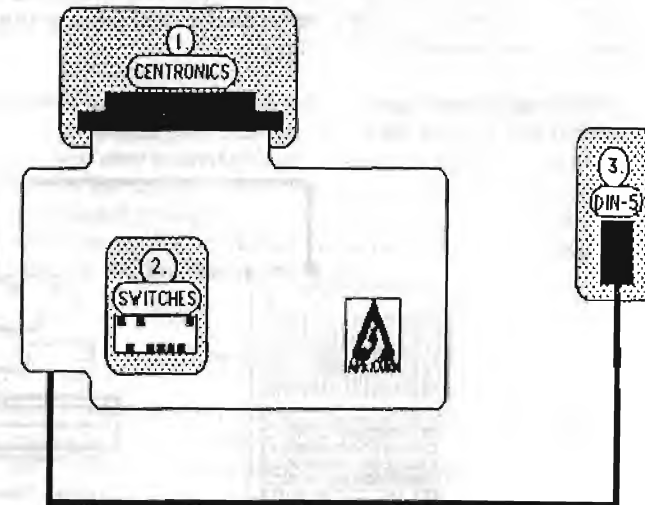
The ApriCord //c is backed with a full life-time warranty. This means for as long as you own the product, if it fails, it will be repaired or replaced free of charge.

Installation

This section will provide step by step instructions for connecting the ApriCord //c to your Apple //c computer. Please read this entire section before attempting to install the interface. Familiarize yourself with the overall procedure of installation. Then perform each step in order exactly as described. Installation should be simple if care and caution are used.

Connecting the ApriCord //c

1. Turn off the power to your Apple //c computer.
 2. Examine the ApriCord //c and ApriCord cable assembly in detail. See Figure 1 for details. Notice the various parts of the ApriCord //c.
1. Centronics Connector 2. DIP Switches * 3. DIN-5 Connector

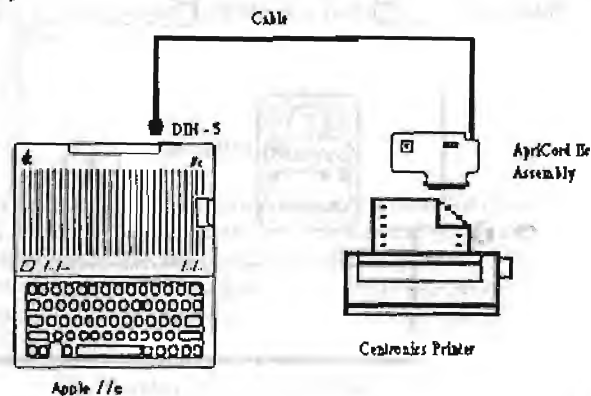


* Factory set for 7 data bits. For most applications you will never change the switches.

3. Plug the end of the cable with the round DIN-5 connector into the Apple //c's printer port. This is the connector next to the power supply cable.

4. Position your printer in a convenient location. Route the ApriCord //c assembly to your printer and insert the ApriCord //c into the 36 pin Centronics receptacle of the printer. The bail locks can be snapped into place to secure the assembly to the printer.

5. Recheck the installation of the ApriCord //c. The ApriCord //c is now installed and ready to use.



Installation Check

In order to check the proper installation of your ApriCord //c, turn ON your Apple //c, boot your ProDOS User's Disk and exit to Applesoft BASIC. You will now be in Applesoft BASIC. Turn the printer ON. Type PR#1 from the Applesoft prompt () and hit <RETURN> a few times. The Applesoft prompt character () should be printing on the printer. If this is not occurring, double check the installation steps, and if necessary consult the Trouble Shooting Section.

Trouble Shooting

The following section is designed to help you solve some common problems interfacing your printer to your Apple //c. Simply find your symptom and check every thing listed for that problem.

Symptom - After PR#1 is typed the Apple //c hangs up and the printer does not print.

Check -

- Is the printer turned on?
- Is the printer ON-LINE?
- Is the ApriCord //c in the correct port?
- Is the cable firmly plugged into the Apple //c and printer?
- Are the switches set properly?

Symptom - The printer does not seem to be linefeeding properly. It is double spacing or overprinting on the same line.

Check - The linefeed option on your printer is not set properly. If your software is set to add a line feed, then set your printer DIP switches to not add a linefeed after carriage return. If the software is set to not add a linefeed, then your printer must be set to append its own linefeed after carriage return. Refer to your printer manual for more information.

If you are unable to correct the problem, please contact your dealer for assistance. If they can not solve your problem, call or write to:

Apricorn Technical Assistance
10670 Treena Street, Suite 10
San Diego, CA 92131
619) 271-4880

Using the ApriCord //c

This section will describe how to access your printer by using the Graphics Sampler, MousePaint Fixer, commercial software and under different operating systems. These will include Applesoft BASIC under DOS 3.3, ProDOS, Apple Pascal and FORTRAN and commercial software packages.

Using the Graphics Sampler

This section will describe how to use the Graphics Sampler //c. This series of utilities allows you to print predefined graphics images, print your own graphics images and change the aspect ratio of both of these. With this utility you can perform high resolution screen dumps.

To use the Graphics Sampler Disk put the disk into drive 1 and turn on the power. This will boot the disk. The first thing that you will see is the Hello screen. To continue just press any key. Now you will see the Main Menu. You have 6 numbered choices and an <ESC> choice to choose from. The 6 choices are explained below and the <ESC> choice will exit you to BASIC.

Choice number 1 on the Main Menu allows you to load a predefined picture. A new menu will now appear. To load any one of these images, select the corresponding letter of the graphics picture. You can load the picture into high resolution page 1 or 2 by selecting the number 1 or 2. To view the picture press the <SPACE BAR>. To go back to the menu press any key. The <ESC> key will return you to the Main Menu.

Choice number 2 on the Main Menu allows you to load your image from your disk so the Graphics Sampler //c can use it. A new menu will now appear and you can load your

picture by selecting <L> Load Picture. You can also load the picture from drive 2 with the <D> option. The <C> option will catalog the disk for you. To load the picture into high resolution page 2, simply press the number 2. Pressing the <SPACE BAR> will allow you to view the picture. To return to the menu press any key. The <ESC> key will return you to the Main Menu.

Choice number 3 on the Main Menu allows you to print the picture in the High Resolution Graphics Page and change the default settings of your picture. To select any one or combination of the options simply select the corresponding letter of that option and then press the <SPACE BAR> to print your picture. The number 1 or 2 will select the High Resolution Page. To exit from the Menu press the <ESC> key.

Choice number 4 on the Main Menu allows you to view and print the Graphics Sampler's Double High Resolution Graphics picture. Press the <SPACE BAR> to print it or the <ESC> key to exit back to the Main Menu.

Choice number 5 on the Main Menu allows you to view and print the Graphics Sampler's Kaleidoscope image. Press the <SPACE BAR> to print it or the <ESC> key to exit back to the Main Menu.

Choice number 6 on the Main Menu allows you to choose your printer. Press the number of your printer and select the correct carriage size. This will automatically install the printer. Press the <ESC> key to exit back to the Main Menu.

Using the MousePaint Fixer

This section will describe how to use MousePaint Fixer. MousePaint Fixer is a utility program which fixes MousePaint so you can use your printer to print the MousePaint files which you have created. The program is made up of three parts. This first is the graphics settings; this allows you to choose which one of the graphics options you want performed on your file. The second is the printer configuration, this allows you to select the type of printer that you have. The third is the actual fix for MousePaint. This is executed after you choose the first two options.

The graphics settings are preset for your printer by Apricorn. This means that we have selected the best aspect ratio for your printer; however, we left the option for you to change these settings and customize it to your special needs.

To use the MousePaint Fixer Disk put it into drive 1 and turn on the power. This will boot the disk. The first thing that you will see is the Hello screen. To continue press any key. Now you will see the Main Menu. You have three numbered choices and an <ESC> choice to choose from. The three choices are explained below and the <ESC> choice will exit you to BASIC.

Choice number 1 on the Main Menu allows you to change the default settings of your image. To select any one or combination of the options simply press the corresponding letter of that option. To exit from the Menu press the <ESC> key.

Choice number 2 on the Main Menu allows you to choose your printer. Press the number of your printer and then select the correct carriage size. Press the <ESC> key to exit back to the Main Menu.

Choice number 3 on the Main Menu allows you to fix MousePaint. After you have set your graphics options and printer selection choose number 3. When prompted, place your MousePaint disk in drive one and press <RETURN>. The program will automatically fix MousePaint so you can use it with your ApriCord //c.

Applesoft BASIC

Since every Apple //c comes with Applesoft BASIC in ROM (Read Only Memory), most of you will be using the ApriCord //c under this operating system.

To direct output to the printer, simply type the command PR#1 <RETURN> (whenever you see <RETURN>, press the RETURN key) from the keyboard. You should now see all output being printed on the printer. To turn off the printer type PR#0 <RETURN>. This returns all output to device 0, the Apple //c video screen.

Under program control this action is performed slightly different. The PR#1 command is really a DOS command so it must be printed preceded by the DOS character CTRL-D. For example, this short BASIC program will turn the printer on and print a short message, then turn the printer off.

```
100 D$ = "": REM CTRL-D
110 PRINT D$; "PR#1"
120 PRINT "HELLO, I AM A PRINTER"
130 PRINT D$; "PR#0"
140 END
```

For more information on selecting I/O devices refer to the Apple //c users manual by Apple Computer, Inc.

Apple Pascal and FORTRAN

These two programming languages are grouped together as they both run under the Apple Pascal operating system. In both of these programming languages all devices are treated like character oriented files. The operating system has reserved certain filenames for specific devices like the keyboard, the video screen and the printer. The reserved name for the printer is "PRINTER:" and the use of this special filename will result in the data being sent to the printer, not a disk file of that name.

For more information on I/O devices refer to page 26 of the "Apple Pascal Operating System Reference Manual" by Apple Computer, Inc. For information on printer output from within a FORTRAN program refer to pages 78 to 82 of the "Apple FORTRAN Language Reference Manual" by Apple Computer, Inc.

Commercial Software

The ApriCord //c is compatible with all software packages that can be used with the Apple //c. In all cases the installation of the ApriCord //c will not disturb the correct operation of the software package. When using a commercial software package you need only refer to the instructions in the product documentation.

Software packages available in retail outlets such as word processing and spreadsheet programs which send data to a printer will automatically do this for you. Some software packages will allow the printer interface to be in any Slot; however, you are using an Apple //c and the default has been set for Slot 1. Most software packages come initially configured for a Slot 1 installation but if this is not the case, you must change it to Slot 1. In any case, refer to the documentation that came with your software package or the Trouble Shooting section of this manual.

Technical Section

This section contains highly technical information about the printer commands, the option switches and the cable pin-out. Under normal conditions you will never have to refer to this information.

Printer Commands

Here is a list of all printer commands that the ApriCord //c will recognize. The actual command is first, followed by the explanation, then an example in Applesoft BASIC. In the examples below follow these rules:

Upper case characters - Type the characters or numbers shown.

Lower case characters - Enter the variable identified by the lower case letter.

CTRL (control) characters - Type the control character by depressing the <CTRL> key and the letter key simultaneously (similar to using the shift key).

Spaces - Spacing in the command explanation is for legibility only. Spaces need not actually be entered.

<RETURN> - This means to press the key marked RETURN.

PR#1 Send all subsequent output to the printer port. This command must be given before any commands listed below.

```
100 PRINT CHR $(4) "PR#1"
```

This program line turns on the ApriCord //c in the printer port.

PR#0 Turns off the ApriCord //c and returns all subsequent output to the Apple //c video screen only.

100 PRINT CHR \$ (4); "PR#0"

CTRL-InN Turns off the video echo and prints n characters per line on the printer.

100 PRINT CHR \$ (9); "80N"

This program line turns off the video echo and sets the print width to 80 columns.

CTRL-II Turns video echo back on and resets the printing width to 40 columns.

100 PRINT CHR \$ (9); "I"

CTRL-1K Turns the linefeed that is added after carriage return on/off.

100 PRINT CHR \$ (9); "K"

CTRL-1L Turns the linefeed that is added after carriage return on.

100 PRINT CHR \$ (9); "L"

CTRL-1Z Turns on the Transparent mode. Ignores all control commands.

100 PRINT CHR \$ (9); "Z"

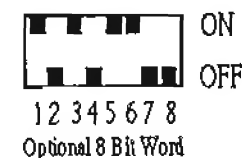
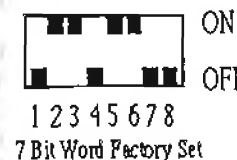
All of these commands can be typed from the keyboard or executed in PRINT statements. If they are typed from the keyboard a SYNTAX ERROR will follow all CTRL-I commands. This is a normal condition.

Refer to the Apple //c Owner's Manual for more information on setting the serial port (pages 29-48).

OPTION Switch Settings

This section will describe the OPTION switches 1 and 2 which control the data bit size. Do not change the position of switches 3-8. These switches are factory set and should not be changed. They control internal functions and changing these values will render the unit inoperable.

Option DIP Switches



Switch 1 - This switch works in conjunction with switch 2 and controls the word size. In the OFF position, the ApriCord //c is set for an seven bit word. In the ON position, the ApriCord //c is set for an eight bit word. The setting of this switch from the factory is OFF.

Switch 2 - This switch works in conjunction with switch 1 and controls the word size. In the ON position, the ApriCord //c is set for an seven bit word. In the OFF position, the ApriCord //c is set for an eight bit word. The setting of this switch from the factory is ON.

Leave these switches in the factory settings. Do not change.

Switch 3 - Factory setting is ON.
Switch 4 - Factory setting is OFF.
Switch 5 - Factory setting is ON.
Switch 6 - Factory setting is ON.
Switch 7 - Factory setting is OFF.
Switch 8 - Factory setting is OFF.

Cable Assembly Pinout

DIN Number	Signal Description
1	DTR
2	TxD
3	GND
4	RxD
5	DSR